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STUDIES AND STUDY-VALUES IN ELEMENTARY SCHOOLS OF LARGE CITIES

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In a social order like our own, where there is no central authority directing educational movements, developments in education are modified more or less by local conditions. What these developments are, to what degree they are alike, and in what ways they differ can only be determined by summarizing and comparing the educational activities of different localities.

The influences determining the development of rural and village schools are different from those acting upon the schools of small cities, while the forces acting upon education in small cities are again different from those modifying the school work of large cities. A comparison of any aspect of the school activities of these units, or of phases of work in a single unit, whether it be rural communities or small or large cities is both interesting and instructive.

STUDIES COMPRISING THE ELEMENTARY CURRICULUM

No educational theme is at present claiming more attention, at least in large cities, than the question of the course of study. A country-wide demand has arisen that the elementary-school curriculum be simplified, that the component studies be revalued, and that the three R's be again given their rightful place in the schools. Local authorities are asking what branches make up

the elementary curriculum in other cities of like size, in what grades are the different subjects taught, what time values are given to the several studies, what place is assigned the three R's?

Table I shows the several studies taught in the elementary schools of fifty of our largest cities and the number of this fifty teaching each branch:

TABLE I

Studies	Reading	Spelling	Grammar	Lang. and Comp.	Writing	Arithmetic	Algebra	Geometry	Geography	History	Civics	Music	Drawing	Manual Training	Cooking	Sewing	Physical Training	Physiology	Hygiene	Elementary Science	Bookkeeping	Typewriting
Number of the fifty cities teaching each branch	50	50	38	50	50	50	19	3	50	50	18	50	50	41	32	41	46	46	44	30	5	1

In the first fifty cities of the country, twenty-two different subjects find place in the curriculum of the elementary school. Reading, spelling, language and composition, writing, arithmetic, geography, history, music, and drawing are taught in all. Of the remaining number, grammar, manual training, sewing, physical training, physiology, and hygiene are taught in thirty-eight or more, while cooking is given place in thirty-two, elementary-school science in thirty, algebra and civics in eighteen and more, bookkeeping in five, geometry in three, and typewriting in one.

Reading, spelling, language and composition, writing, arithmetic, geography, history, music, and drawing, it may therefore be said, constitute the core of the elementary course of study in American cities of size; in addition 80 per cent. give instruction in grammar, manual training, sewing, physical training, physiology, and hygiene; 60 per cent. make place also for cooking and elementary school science, but it is only here and there that other subjects are taught.

GRADES IN WHICH STUDIES ARE TAUGHT

Table II shows the branches included in the elementary courses of study of fifty of our largest cities, the number teach-

ing each branch, also the grades in which each is taught and the number teaching the given subject in the respective grade:

TABLE II

	No. of Fifty Cities Teaching	Grade in Which Each Is Taught and Number of the Fifty Cities Teaching in Respective Grade							
		I	II	III	IV	V	VI	VII	VIII
1 Reading	50	50	50	50	50	50	50	50	50
2 Spelling.....	50	40	47	50	50	50	50	50	50
3 Grammar ..	38	..	1	3	5	14	25	34	35
4 Language and Composition ..	50	46	46	47	50	50	50	48	48
5 Writing.....	50	48	50	50	50	50	50	46	43
6 Arithmetic	50	35	46	50	50	50	50	50	50
7 Algebra.....	19	..	..	..	..	..	..	2	19
8 Geometry...	3	..	..	..	..	..	..	1	3
9 Geography..	50	4	9	32	50	50	50	46	32
10 History.....	50	8	9	11	17	31	39	48	50
11 Civics.....	18	..	..	..	..	..	..	6	18
12 Music	50	50	50	50	50	50	50	50	50
13 Drawing....	50	50	50	50	50	50	50	50	50
14 Manual Training..	41	21	21	21	20	22	28	35	35
15 Cooking	32	..	..	..	..	1	2	28	28
16 Sewing	41	..	..	5	13	29	37	27	13
17 Physical Training..	46	46	46	46	46	46	46	43	43
18 Physiology	46	21	22	23	30	36	35	38	40
19 Hygiene	44	35	36	38	38	43	41	40	38
20 Elementary Science ..	30	24	24	24	24	25	25	25	26
21 Bookkeeping	5	..	..	..	..	..	..	..	5
22 Typewriting	1	..	..	..	..	..	..	1	1

Reading, spelling, language and composition, writing, music and drawing are the only studies, it will be observed, that are actually or practically taught in all the grades of the schools of the fifty cities under consideration. Though grammar finds place in other grades, it is confined in the main to the last three. With regard to arithmetic, there is a growing movement to either omit altogether or to make the work in it during the first two years incidental, regular and systematic instruction beginning only with the third. In cities, where algebra or geometry are taught, one would expect these studies to supplant arithmetic, but this is not the case; they seem to be taught not as supplementary to arithmetic, but as separate and

additional branches. Few cities give place to geography before the third grade, and this instruction is confined largely to the fifth, sixth, and seventh years, and though it is taught in the eighth grade, there is a tendency to complete the work in this branch in the seventh. Despite the attractiveness and educative value of historical materials, only here and there is history taught before the fifth grade, and it is taught by all the cities

TABLE III

	Grade							
	I	II	III	IV	V	VI	VII	VIII
Reading	+	+	+	+	+	+	+	+
Spelling	+	+	+	+	+	+	+	+
Grammar	..	..	..	..	..	+	+	+
Language and Composition	+	+	+	+	+	+	+	+
Writing	+	+	+	+	+	+	+	+
Arithmetic	..	+	+	+	+	+	+	+
Algebra	..	..	..	..	..	..	..	+
Geography	..	..	+	+	+	+	+	+
History	..	..	..	..	+	+	+	+
Civics	..	..	..	..	..	..	..	+
Music	+	+	+	+	+	+	+	+
Drawing	+	+	+	+	+	+	+	+
Manual Training	..	..	..	..	+	+	+	+
Cooking	..	..	..	..	..	..	+	+
Sewing	..	..	..	..	+	+	+	..
Physical Training	+	+	+	+	+	+	+	+
Physiology	..	..	..	+	+	+	+	+
Hygiene	+	+	+	+	+	+	+	+
Elementary Science	+	+	+	+	+	+	+	+

in question in but one, the eighth. As a rule manual training is combined during the first four years with drawing, and notwithstanding it is given separate place in some cities in the fifth and sixth, the real work in this branch is confined largely to the seventh and eighth years, so also with cooking for girls which takes the place in these grades of the manual training for boys; sewing on the other hand seemingly finds its proper place in the fifth, sixth, and seventh, yet where sewing is taught in the seventh, cooking is as a rule confined solely to the eighth. Though physical training and hygiene are practically taught in all the grades in all the cities where they have been introduced,

physiology is taken into account more generally in the fourth and thereafter. Likewise, with elementary science, where it is given place, it is taught on the whole in all grades.

The grades in which the studies, comprising the elementary curriculum in cities of size, are taught, notwithstanding variations, are indicated on the preceding page.

Table III shows the principal studies comprising the elementary course of study in large cities and the grades in which each is generally taught.

STUDY-VALUES

Though a seemingly large number of studies find place in the curriculum of the elementary schools of large cities, these are by no means regarded of equal importance. The significance attributed to a study is indicated by the time devoted to it.

Table IV shows the percentage of the total time of the elementary school given in 1907–8 to each study in eleven typical large cities, it also shows the average percentage of the total time assigned each branch:

TABLE IV

	Boston	New York	Chicago	Rochester	Cincinnati	Indianapolis	St. Louis	Milwaukee	Kansas City	San Francisco	Cleveland	Average Per Cent.
Reading	26.25	32.50	40.26	17.77	14.13	17.80	17.90	22.79	14.50	30.93	26.31	23.74
Spelling	*a*	*b*	*b*	5.28	9.57	5.33	6.39	8.07	10.70	5.23	5.94	7.06
Grammar	*a*	*b*	*b*	2.39	3.25	2.16	*a*	*a*	*a*	*a*	3.63	2.85
Language, Composition and Supplementary Reading	20.14	*b*	*b*	7.98	11.37	18.03	10.05	13.27	11.20	10.56	12.18	12.75
Writing	*a*	5.81	4.88	5.08	5.41	7.86	11.05	6.86	9.66	3.77	5.73	5.71
Arithmetic	16.41	13.40	11.02	18.60	18.78	11.97	14.98	14.71	15.10	16.50	16.40	15.26
Geography—History	10.06	10.77	9.65	16.95	13.28	9.66	11.50	9.55	14.10	12.82	9.36	11.60
Music	4.47	4.85	6.37	4.79	4.87	6.85	8.18	6.92	6.60	5.38	5.46	5.88
Drawing	6.85	8.90	6.95	4.78	6.05	9.45	9.98	6.92	11.50	4.52	4.91	7.34
Manual Training	6.15	4.65	9.85	7.83	2.16	2.16	2.38	6.23	*c*	1.80	4.73	4.79
Physical Training—Physiology and Hygiene	7.09	13.05	5.17	6.57	7.40	8.65	5.32	4.61	4.00	5.23	5.31	6.58
Elementary School Science	2.51	6.01	5.80	1.99	3.79	.....	2.92	.....	3.11	3.11	....	3.65

a. Included in language; *b*. Included in reading; *c*. Included in drawing.

There is considerable variation, it will be observed, in the value accredited the same subject in different cities and in that ascribed different studies in the same city. This, however, is true for the eleven in review, and doubtless for all large cities,

namely, that reading is taken to be of first importance; to it is ascribed on the average 8.48 per cent. more of the total time of the elementary school than to arithmetic, almost twice as much as to geography and history combined; while practically as much time is accredited to it on the average as is devoted to music, drawing, manual training, physical training, physiology, hygiene, and elementary-school science taken together. In a word, almost one-fourth of the total time of the elementary school of these eleven typical large cities is given to the teaching of reading.

Of second importance is arithmetic, to which is credited practically every sixth day the school is in session. The third in order is language and composition, followed closely by geography and history.

Of fourth importance are spelling, writing, music, drawing, manual training, and physical training, physiology and hygiene, while grammar and elementary-school science are being ranked as fifth in significance.

GROUP-VALUES

Further light is thrown upon the value ascribed the different studies in the elementary schools of large cities, if these studies are grouped and the values assigned the different groups compared. The studies of the elementary school may be classified as the three R's, the fundamentals, and special subjects.

Table V shows the per cent. of the total time, of the elementary schools of eleven typical large cities, given in 1907–8 to the three R's, to the fundamentals, and to the special subjects, also the average per cent. of the total time devoted to each group.

From Table V and taking the average there given as the basis of judgment, the three R's, it would seem, are regarded in large cities as the subjects of first rank, to them is assigned six-tenths of the total time of the elementary school or in other words, upon the teaching of children to read, write, and cipher is expended six-tenths of the energies of the teacher and six dollars out of every ten levied for elementary education.

If to reading—employed to comprise spelling, language,

and grammar—to writing and to arithmetic there are added geography and history, and these branches taken together are characterized as fundamentals, to them is accredited, in cities of first size, almost three-fourths of the time of the elementary

TABLE V

	Boston	New York	Chicago	Rochester	Cincinnati	Indianapolis	St. Louis	Milwaukee	Kansas City	San Francisco	Cleveland	Average Per Cent.
The Three R's: Reading—Reading, Spelling, Grammar and Language; Writing; Arithmetic	62.80	51.71	56.16	57.10	62.51	63.15	60.87	63.70	61.16	67.08	70.19	61.49
The Fundamentals: Reading; Writing; Arithmetic; Geography; History	72.86	62.48	65.81	74.05	75.79	72.81	71.87	73.25	75.26	79.90	79.55	73.05
The Special Subjects: Music; Drawing; Manual Training; Physical Training—Physiology and Hygiene; Elementary School Science	27.06	37.46	34.14	25.96	24.27	27.11	28.78	24.68	25.21	20.04	20.41	26.82

school, while but one-fourth is credited to the special subjects or to the so-called "fads and frills." With such a conception of the values of studies prevailing, there seems little immediate danger of the "fads and frills" or of the special subjects, notwithstanding their increasing worth, taking possession of our city schools and of the fundamentals being given a subordinate place in the education of the rising generation.

NATURAL HISTORY IN THE GRADES

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IV. FOURTH GRADE

The nature materials recommended for this grade are:

1. *Animal life.*—Further study of two or three kinds of common fish, their structure, uses of the parts of the body; nesting habits of one or two kinds if the nests can be found reasonably near the school building; where the eggs are placed and how they are cared for, the behavior of the young; optional individual and group field-study of fish in neighboring pools and streams; recognition acquaintance with the cat-bird, red-wing, blackbird, red-start, nut-hatch, kinglet, and the quail if it is available; the bird calendar and further study of bird migration should be continued; feeding and nesting habits of birds should be continued by study of some particular bird's nest if a convenient one may be had; economic value of birds as shown in the feeding habits in the particular nest referred to above, and also as shown in the habits of the birds in the garden throughout the season's garden work (see garden work below); the common snakes should be noted and should be thought of as valuable factors in the life of the region, not considered harmful as they are usually supposed to be; a further acquaintance-forming study of such insects as the coddling moth, plant lice, ant lion, and others that are common to the garden and field; spiders; the hibernation of animals in the winter season as shown by a study of their condition in the late autumn and again in the early spring. Spiders will be taken as the topic for fuller illustration of the method of treatment at the close of this list of the materials that are used.

2. *Plant life.*—Arrange a list of the trees that furnish food for the birds of the region and consider their importance with reference to the economic value of birds, the desirability of

having birds in the locality for other than economic reasons; collect fruits of trees which are edible for birds and for man or other animals, and discuss the relation of trees to the whole animal life of the region; the general uses of timber by men, elementary lumbering processes studied mainly by means of good stories about logging and lumbering; visit a good lumber yard if possible and ascertain the regions from which the timber used in the local region comes (see geography); the natural history

FIG. 1.—Individual plots of the fourth grade. The first cultivaton, weeding, hoeing, caring for the walks.

of the trees is to be emphasized but needs to be related to the use of their products; acquaintance with the local wild flowering plants in the autumn and spring, including a half-dozen of each; the care and growth of common edible and decorative plants in the garden during which there is secured some knowledge of the nature of a plant and its relation to the earth.

3. *Garden.*—The garden work of this grade should be done with each pupil having an individual plot in which he may grow plants of his own choice in so far as that choice is possible and harmonizes with the general plan of the garden (Fig. 1);

each pupil should be made responsible for the care of his garden and should own the results therefrom; each will need careful direction as to planting and cultivation, watering, removing the products at the right time and in the proper way, but with all there should be maintained the feeling of responsibility and ownership from which the best results come; plans and drawings to scale should be made before the time for the outdoor work to begin; also attention should be given to starting from slips and cuttings some of the things that are to be needed in the garden; in the autumn seeds for the next year's use should be collected, labeled and put away where they may be safely kept; during the progress of the garden work, constant attention should be directed to watering, drainage, condition of the soil, weeds, and their effects upon other plants, insect enemies of garden plants; a few of the methods to be used as protection against these insects should be discussed; the effects of the birds and other animals of the garden as the toad upon the well-being of the garden; a garden record should be kept and will serve well as the basis of language work, and for the art work.

In making the detail plans for the individual gardens, care must be taken to see that pupils do not include too much material, and that it is so arranged that when grown some things will not shade the others (Fig. 2), or that in case of flower gardens some plants will not hide others. In one garden which I visited last year there was a row of castor beans around the outside of the bed inside of which was a row of petunias, which in turn inclosed a small bed of sweet alyssum. Had all of the castor beans grown they would have had much less space than they needed even with several times the space allotted to this whole plot, and those that were able to grow so completely shaded the things within the garden that the latter received no light and could not have been easily seen had they grown. Within this group of gardens several illustrations were seen of this lack of proper planning. While the pupil should make his plan and decide in the main what he will grow, this plan and the things selected should be so carefully supervised that failure will not result. It is sometimes argued that pupils should be allowed to have these

failures in order that the results of their work may be shown to them. There still remain after the plans are well made plenty of chances for demonstrating the results of improper work. There are here presented figures showing the preliminary plans made by fourth-grade pupils (Fig. 3), also the garden of another pupil after it is far enough along to show whether the plan was successful (Fig. 2).

FIG. 2.—A fourth-grade boy's combination vegetable and flower garden. Parsley, lettuce, and onions in the first and sweet alyssum and balsam, or touch-me-not, in the second. Some of the plants have been removed for use.

4. *Earth materials.*—In connection with the third grade, study was made of evaporation from the soil and the relation of soil to growth of the bulbous plants that were the center for much of the nature-work of that grade; further study should be made of the formation of soil through erosion and decay of rocks; removal, carrying, and deposition of soil as it is shown in streams, along the lake shore, and in laboratory experiment;

relation of plant and animal decay to soil formation; effect of winds upon soils; kinds of soils that are best for agriculture (see geography for location of best agricultural regions).

5. *The work with spiders.*—In taking this topic to illustrate in a more detailed way the kind of lessons that are used in this grade, it is not to be inferred that the topic is emphasized in the grade to the exclusion of other topics. The spider work

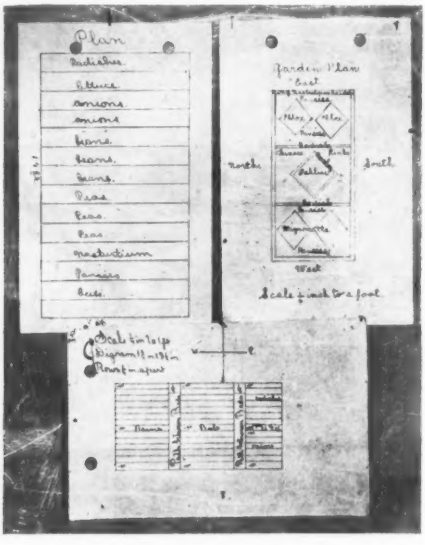

FIG. 3.—Children's garden plans.

consisted of ten lessons together with the voluntary and individual field work that the children did outside of school time. Spiders were brought into the room before the time for the first lesson and at the time that the lesson was to begin one of the spiders had spun a web part of the way down from the ceiling. It was taken as the starting-point in the work. The ten lessons as they were given by Miss Lackner, the teacher of this grade, are as follows:

First lesson: Observed spider spinning web from the ceiling, and tried to determine where the web comes from, and

how it is spun. The spider was seen to crawl part of the way back up the web after it was almost to the floor, and the pupils saw that the web was rolled into a small gray ball and carried by the spider. They tried to determine how the web was carried. The web was examined under a hand lens. The question as to the source of the web was not decided, but afforded much interest. It was suggested that all pupils who wished to do so should bring into the schoolroom before the next lesson, two days later, any spiders that they could find. The question as to what are the parts of the spider's body and how they are arranged was taken up but not determined in this lesson.

Second lesson: Many spiders had been brought into the room and kept in a cage which the children called the "spider hotel," and much interest was shown in the different kinds, the differences in behavior of those that were turned out in the room, and the different ways in which they were spinning their webs. "Where are spiders found?" was the question at first taken up and the experiences showed that many sources had been discovered. "Of what use are spiders' webs to them?" "How are they able to move so rapidly?" and "How do they spin the webs?" were constant questions. The children could not agree in their observations concerning the number of legs that the spiders have, nor as to the part of the body on which they are attached, and these points were left for following lessons. The interest was intense and the pupils individually without suggestion sought assistance from various sources. At this point in the work one of the girls found a fine yellow and orange specimen which she wished to keep in a cage by itself, for which arrangements were made. It was placed in a glass fruit jar, and within a day began to lay its eggs and weave the web by means of which the eggs were inclosed (Fig. 4). A better demonstration could scarcely be desired. The eggs were laid upon the leaf with which the spider had been brought into the room, and the building of the web about the eggball proved of interest to adults as well as to the children. While this had been occurring another female spider had been brought into the room within a small pasteboard box. The box containing the

spider was placed in a glass dish, the bottom of which was much wider than the pasteboard box. Soon the spider laid her ball of eggs, then she began to anchor the box in the center of the bottom of the glass dish. Web was placed from all sides to the wall of the dish, but with the first handling of the dish the box moved somewhat, when at once additional webs on all sides were placed so that even with the dish turned on edge the box

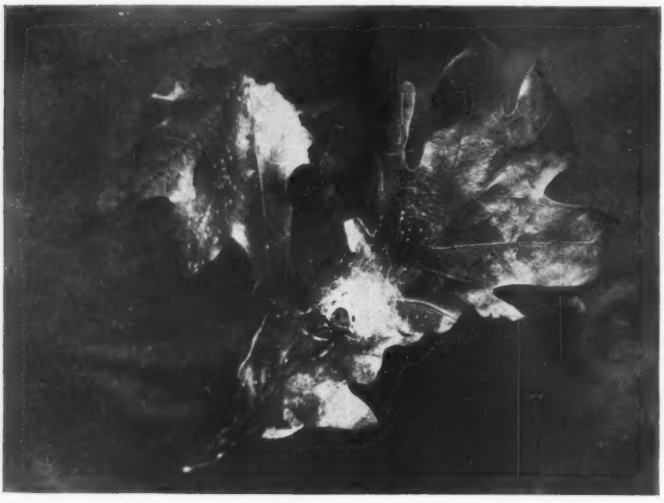

FIG. 4.—A spider's "egg ball"; eggs laid and the web woven in the schoolroom.

did not slip. This was a response to new conditions that interested and surprised everyone. In inverted flower pots in the garden the children found spiders and their eggs. The children concluded that the spiders had gone into "winter quarters" and examined them diligently for evidence upon this point.

Third lesson: This lesson was used in reading from books upon the spider's web, how it spins, life of the ground and water spiders, how spiders "fly" through the air, the mother and young spiders. The study that the children had made furnished an

excellent basis for this reading about things that they had not been able to see in this study.

Fourth lesson: A further study of the structure of the spider's body. Diagram on the board of the spider's body, ending by a diagram made by the teacher in which the pupils assisted by describing the parts, using the following names for them: abdomen, spinneretts, thorax, the eight legs, the seven parts, the eight eyes, and the feelers.

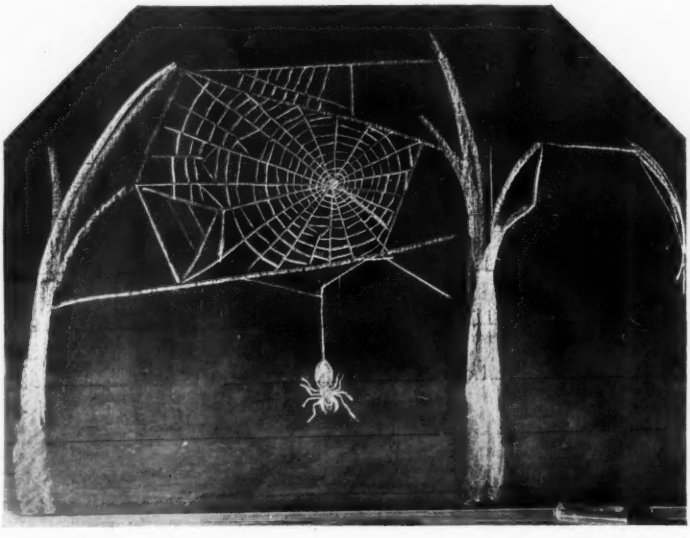

FIG. 5.—A child's board drawing representing his idea of the spider and its web. Not a drawing of any particular web.

Fifth lesson: Form and construction of spider's webs. Drawings of webs in different stages of construction as seen in the schoolroom and as remembered from the individual outdoor studies. The teacher had prepared upon the board a most carefully made and complete drawing of a spider, which was used for final discussion of the structure of the spider's body. A sample of the drawings by the children is shown in the picture (Fig. 5) which represents a pupil's drawing unchanged by

the teacher. One child had watched a spider spinning its web and was called upon to describe the process. This child had remained within the schoolroom during the recess period. I was going through the hallway near the room and, chancing to look within, saw the boy lying on his face in the corner of the room beneath a small table. Stepping into the room

FIG. 6.—Photograph of a spider's web. Taken early in the morning with dew upon it. Illustrates structure and form. Photograph by T. L. Hankinson.

to see what he was doing, I was met with the request: "Don't make a noise; there is a spider here and he is spinning his web and I want to see how he does it." I watched in silence for a while, and started to leave the room when the boy said: "I hope recess isn't over; the children will come in and I'm afraid the spider will stop." This child was able to describe the spinning from first-hand observation, and while doubtless some errors were made, his report was given in the real spirit of an investigator.

A photographic illustration of the form and structure of a spider's web is shown in Fig. 6.

Sixth lesson: Written lesson on the spiders, their webs, their uses to the spiders, their structure, the home of spiders, their eggs and young; drawings to illustrate the descriptions.

Seventh lesson: An oral report along the same lines of the written work but given at the elementary school's opening exercises before pupils from the other grades.

Eighth lesson: One child had found in the library a book which contained some interesting descriptions of spiders—a book that was not known to the teacher or the other pupils. The children read from this book and discussed it from the point of view of their previous work.

Ninth lesson: Spiders had been noted with webs floating in the air and some of the reading that had been used had spoken of this phenomenon. An experiment with a spider having this habit was tried in this lesson—an experiment that is suggested in Hodge's *Nature Study and Life.* On the top of a pencil that was supported in the center of a basin of water one of the spiders was placed. After making several attempts to escape, the spider began to spin a web and to let it float out into the air. The children were warned not to jump away in case the web should strike them, and when it did strike one of them the spider immediately crawled along the web and escaped from the water by way of the child's head. This experiment was repeated many times with much interest to all.

Tenth lesson: The use of pictures of spiders, final study of a spider to determine certain controverted points, and a final written paper.

Some of the books that will be found helpful are *The Spinner Family,* by Alice Jean Patterson (A. C. McClurg & Co., Chicago); *Nature-Study and Life,* by C. F. Hodge (Ginn & Co., Chicago); *Stories of Our Shy Neighbors,* by Mrs. M. A. B. Kelly (American Book Co., Chicago); *Nature-Stories for Young Readers* (Animal life), by Florence Bass (D. C. Heath & Co., Chicago); *The Common Spiders of the United States,* by J. H. Emerton (Ginn & Co., Chicago).

ENGLAND AND HER RETARDED CHILDREN

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Although the English Education Act of 1870 placed upon the school boards the responsibility of dealing with all children of school age, it was not until thirty years afterward that the claims of retarded children to educational consideration were recognized by the central government. An alarming and steady increase of lunacy, together with an accompanying decline in the physical condition of English people generally, has caused public attention to be focused with increasing concentration upon the problem of the feeble-minded child and the conditions under which he is propagated. Recently several of the larger school boards, notably those of London, Liverpool, Birmingham, Glasgow, Manchester, and Bradford made independent inquiries with a view to ascertaining the number of retarded children of school age under their jurisdiction. Some startling discoveries were made. Large numbers of unfortunate children, who by their defects were able to evade the law of compulsory school attendance, were found to be living under such conditions of pure animalism as constituted a grave menace to the social system.

Miss Dendy, of Manchester, who has devoted her life to the interests of the feeble-minded, conducted an inspection of 40,000 pupils attending the schools of Manchester, and 500 cases of abnormal mental defect were observed and classified. These figures give a percentage for school pupils slightly in excess of 1.2 per cent., but taking into account the cases which are confined to the home, Miss Dendy calculates the proportion for all children of school age at 2 per cent.; and it is interesting to note the opinion of experts in lunacy that such children are usually the offspring of mentally defective parents. The complexity of the general problem is apparent in the fact that of some 250,000 persons in England and Wales who may be accounted as of deficient intellect, only half have been certified for permanent

detention in homes. As a result of the inquiries, special schools for retarded children were founded in the large towns. The general intention was that the children should receive simple instruction in small classes under specialist teachers, until such proficiency in studies had been attained as would enable them to be drafted into the common schools. But in practice the theory proved quite unworkable. Often the children were admitted to the special schools without any attempt at classification; pupils who were merely mentally backward were associated with epileptics and idiots. The teachers had to be ceaselessly active, and many bear permanent marks of the violence of their pupils in the early days of the special school system. And as curricula were based upon the requirements of the common schools the work of the pioneer special centers was carried on under almost impossible conditions.

When the pupils left the special schools it was found that they were unable to do work which called for effort of a sustained character. In speaking of the general results of the special school system, Dr. James Kerr, medical officer of the London County Council Schools, reports:

> A considerable proportion of the pupils show little moral restraint, some are almost without speech, some seem incapable of work, others work without progress or intelligence; very frequently too they are addicted to staying out or even wandering at night, and many of this class come into the hands of the police. Some have bad habits, and immoral tendencies are common. Many are capable of control while in the special school, but speedily become irregular and uncontrollable on leaving it. About one-third will be capable of materially contributing to their livelihood after leaving, one-third will partially contribute but require an after-care association of some kind to watch over them, whilst the remainder should not be allowed to mix with the rest of the community, but should receive some kind of custodial treatment.

In the case of Bradford it was found to be characteristic of special school boys that though they could do some kinds of work and generally found situations when they left school, they never kept their places and were always on the streets, being dismissed usually, not for physical inability to do the manual work required of them, but for some eccentricity of conduct.

> Our experience in Manchester [runs the report], is that the boys very often get work when they leave the special school, but they keep it only for a short time. The best of them keep their places only so long as they can be considered to be boys. When it comes to a question of men's wages they are turned adrift. Nobody wants them. Others who are presentable in appearance and of good address get place after place, but are rarely in employment for any length of time. Undoubtedly the newly introduced Employers' Liability act will further militate against the chances of work for the mentally backward.

Of the cases which passed through the special schools of London during a fixed period, only 12 per cent. were eventually reported as being in receipt of good wages and only 34 per cent. were classified as satisfactory with regard to their moral condition.

Perhaps the most practical work of the early special school experiments was the classification of cases according to their distinctive defects. It was at first a most difficult matter to distinguish between the backward type of pupil and the defective; but generally speaking it is now recognized that the first class comprises those children who have a definite sense of responsibility in what they undertake; and their innate slowness of conception is not so fatal as, in later life, to prevent them from earning a living. In a physiological sense such cases would be normal. Within the second class may be grouped such cases as are marked by a notable degree of irresponsibility, which may or may not be accompanied by slowness of perception; but there is nearly always present some physiological defect—faulty formation of the palate, of the organs of sight and hearing, of the spine, or of the skull, which causes the pupil to be insensible to the usual methods of the school tutor. "No school training can cure the feeble-minded child" has been the experience of the pioneer English experiments in this field.

It was not until 1899 that the government, roused by the spade-work of the large towns, passed the Defective and Epileptic Children Act which empowered, but did not compel, the authorities to provide for such children in every locality. This act recognizes defective children as a class as distinguishable from the sane and the insane, and provides legislation for them up to the age of sixteen. Being permissive, this act has not been

generally adopted. Apart from the towns, only three counties have set it in force—Cheshire, Shropshire, and Surrey. In all there are now 179 special schools accommodating 11,000 children.

While it is not compulsory upon education committees to provide schools for weak-minded children, it is compulsory upon parents to avail themselves of such schools when these are provided, and when they are directed to do so by the responsible education authority. This arrangement leads to many difficulties; for parents desiring to have their children specially instructed will move into districts where such instruction is provided; while parents wishing to avoid attendance at special schools for their children evade the law by moving out of the area provided for. At the present time children can be admitted into special schools at the age of five and can be legally detained until the age of sixteen years; so that in the eye of the law mental defect ceases automatically at the latter age.

The absurdity of this legislative action has been repeatedly proved by the results of after-care committees in nearly every town. Recent returns from Liverpool show that only 18 per cent. of ex-special-school pupils provide satisfactory reports, while the Birmingham committee supplies satisfactory records for 16 per cent. of the cases under observation. It is evident therefore that the work of the special schools is at present nullified for want of legal provision for the permanent detention of the worst cases in custodian homes.

If a child in the primary school is thought to be of defective mentality, he is sent by the teacher to the local special school for examination by the medical officer, after which he is retained in the school on probation and ultimately is (1) returned to the ordinary school as not being defective; (2) dismissed as being too defective; (3) retained in the special school until the age of fourteen or sixteen. For imbeciles (class 2) there is no provision whatever, save that provided by the poor-law authorities.

In order to carry on the work of the special schools, the Lancashire and Cheshire Society for the Permanent Care of the Feeble-Minded was formed several years ago mainly through the initiative of Miss Dendy. An estate of 500 acres had been pur-

chased by the trustees of David Lewis—a millionaire merchant prince—for the purpose of establishing a colony for epileptics, and as the whole of the land was not needed for this object, a freehold-site of 20 acres was given by the trustees to the new society. Upon this land three houses and a day school were erected; and at a later period the same trustees provided a convalescent home and country schools for the purposes of the society's work. According to the report of the Royal Commission recently issued, this experiment is the most complete yet made for permanently providing for the feeble-minded. At first a small school for little boys was opened, followed by a similar school for girls. Next a schoolhouse was added; and as, with the growth of members, there was not sufficient accommodation, an adjoining farm was rented. In the farmhouse the older boys sleep, these being drafted thither as soon as they are too old to sleep with the little boys. From the first the principle has been adopted that no children older than thirteen years shall be admitted, many are received at a much younger age; hence there is little difficulty in maintaining harmonious discipline. By means of co-operation with the Cheshire County Council and the education authorities of Manchester, Salford, Bolton, and Blackburn a regular yearly income is guaranteed on behalf of the children sent from these districts and as there is a substantial grant from the Board of Education on behalf of the younger inmates under school instruction in the home, its committee is able to meet other financial calls from private sources.

The cost of the children at Sandlebridge is $100 per head per annum; the cost of keeping an ordinary law-breaker is $120 per annum, while that of a convict amounts to $200 per annum. So great has been the success of the experiment that three years ago an adjacent estate was purchased. It had on it a very good farm house, a large mansion—Warford Hall—with a lodge and cottage. It has also splendid gardens and greenhouses and seventy-four acres of good land. The hall has been adapted to the needs of the older girls and at the present time the equipment is perfect. There are now close on two hundred boys and girls on the estate, of ages ranging from ten to twenty.

There are about one hundred acres of land under cultivation. Eight of the boys work on the farm and twelve in the gardens, and as they are encouraged to believe that the whole place with the animals, etc., belongs to them they take great pride in their work and its results. The boys who sleep at the farm rise in summer at 5:45 A.M., work with the men until breakfast, and after prayers go out again to work until dinner time. They work again on the farm until tea, the monotony being pleasantly relieved by an occasional journey to town with produce, helping with the threshing-machine, hay-making, etc. After tea, unless there is pressure of work, their time is their own save that they must wash themselves thoroughly and clean their boots. Two or three of the boys have small plots of land upon which they devote much energy. They are allowed to sell what they produce. When the evenings are spent indoors the form of recreation is decided by each in turn; one night it will be singing, another night games, another reading aloud. The hour for retiring is 8 P.M. There are six practical men on the farm who do not leave the boys at work under them until they see them under the care of the matron or one of the teachers. On Sunday, which is always kept as a day of reading, singing, and walking, simple services are held in the schoolhouse, the big boys and girls having separate rooms for this purpose. When the festivals of the year occur—Shrove Tuesday, Easter, May Day, Christmas—little treats are given which are greatly appreciated by the young people.

It has been found that the girls are less easy to manage in some respects than the boys, as they are more quarrelsome, more restless, and more delicate. Under the supervision of two laundry instructors the girls do all the washing for the colony, which includes a resident staff of twenty-six, in addition to the children. The girls also do a great deal of knitting and sewing and go through an extensive course of physical exercises. They are dressed as prettily as possible, and the home feeling is fostered by considering their tastes as to work whenever possible. It is curious to note that many of them prefer laundry work to any other, though many of them are fond of light tasks in the garden,

such as weeding, cutting lavender, etc. Such work, however, is given rather as a privilege than as regular employment.

A great point is made of good manners; it is found quite possible to make all the pupils behave so well that there is no objection to better-class children associating with them. The toilet, meals, play, and school are all made means of conveying lessons in good manners. It has been found that cold has a marked effect upon retarded children and great care is taken in the Sandlebridge colony to secure cosy conditions at all hours and seasons. Throughout the experiment the fact has been emphasized that it is easy to control feeble-minded children if they are never allowed to indulge animal passions. It has been found that a mature weak-minded girl who has once gone wrong can only be reclaimed under forcible detention; hence the emphasis laid by the Sandlebridge authorities upon the importance of early admission to the colony.

In addition to the usual subjects taken by special-school pupils —including simple games and songs, nature-study, manual work, as joinery, etc., basket-making, chair-caning, cookery and needlework for girls, drawing and brushwork, with modeling— both boys and girls at Sandlebridge learn to knit, darn, and sew, and do rug-work. They knit all their own vests, and many, their own stockings. The health of the children, which is supervised by a special medical officer, is excellent, as is shown by the fact that there have only been three deaths since the school was opened five years ago. During the same period three pupils have been discharged, and seven removed by parents. The farming operations are eminently satisfactory. The milk supply alone last year reached $2,000 in value. Stock is raised without the necessity of purchasing fodder during the winter months, sufficient hay being produced on the farm for the purpose. Potatoes, wheat, oats, mangels, and cabbages are the most successful crops raised. The glass and kitchen gardens form another profitable department. The balances of profit on the working of the farm and gardens for the last two years are $2,250 and $1.600 respectively.

The report of Dr. Eichholz, the eminent specialist in mental disease, who visited the school last year, runs:

> The children now in residence have been selected for training after very careful scrutiny as to which children are fit for a colony school of this type, a distinction having to be made so as to exclude imbeciles on the one hand and those who are educable in day schools on the other. On the educational side of the institution every effort is made to develop such slender powers as the children possess by means of the usual schoolroom subjects, manual work, physical exercises, and music, this department being very ably conducted.
>
> On the domestic side the children show great improvement in physical appearance and in vigor of movement. Good manners, a proper attitude to work, fair play, and the cultivation of a neighborly feeling are matters upon which stress is laid both in school and home. The opening of Warford Hall for older girls, the separation of the younger boys' home from the rest of the colony, are new features which go to make organization and classification less difficult than before. With the industrial provision for adolescents and adults added to their school, the committee are able to regard their institution as a model scheme of administration for handling the whole problem of the feeble-minded at every stage.

It is worthy of note that Manchester, the center of English industry, is fully alive to its educational responsibilities for those whose misfortunes are indirectly due to the exacting demands of modern industrialism upon the mental and physical constitution of the workers. For the mentally retarded there are the special schools and the Sandlebridge Colony; for the crippled, the lovely home and school at Swinton; for the children in the poorer districts, the country school at Mobberley, where batches of pupils are taught throughout the milder months; for the epileptic, the David Lewis Colony. Birmingham has already opened an institution modeled on the lines of that at Sandlebridge and important developments on behalf of retarded children are now being carefully planned in many English educational centers.

THE FINE AND INDUSTRIAL ARTS IN ELEMENTARY SCHOOLS, GRADE VI

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Children in Grade VI have generally reached a stage of maturity where they are able to enjoy working with sustained purpose for a result that requires a considerable length of time for its realization and that demands thoughtful and somewhat complicated planning. They take pride in a high quality of workmanship in their production and find satisfaction in its usefulness, even though that usefulness is for the benefit of society at large and not directly for themselves. An appreciation of the beauty of well-related proportions and fine outlines is increasingly apparent. Children at this age will occupy themselves with problems of design that demand, as a book cover does, the experimental arranging of title, ornament, and other elements until the space relations are most pleasing.

In representation the children desire a knowledge of how to picture objects so they will appear to be solid and in various positions and at different angles. All these attitudes toward the manual arts are often evident earlier than the sixth year in school, but at this time they furnish sufficiently strong motives to lead the children to sustained effort for the sake of solving a problem in representation or of mastering tools and processes that these may be a means of freedom and sureness in execution, or of planning and arranging forms and colors so that the result may be pleasing to the eye.

Perhaps the most significant attitude of mind characteristic of children in Grade VI is the awakening of the desire to be connected with the activities of the outside world, and to do something worth while. Life in the country offers abundant opportunity for such occupation. Each child as he comes to suitable age can assume some responsibility, the meeting of which contributes directly to the welfare of the family. The garden, the

wood pile, the poultry yard, the kitchen, give concrete opportunities in which the relations to family welfare are immediate and evident.

In large towns and cities outlets for activities which make the boy or girl a responsible contributing factor in the social system are not so obvious. Products are bought ready made. Children become accustomed to regard things as the equivalent of money, rather than of labor. Moreover, the providing of all school supplies by the town or city often presents with its evident advantages the disadvantage of leading children to feel that the municipality is an impersonal, inexhaustible source of supply. In cities also appear in Grade VI symptoms of that deflection of children from schools into industries which reaches its height at the end of Grade VIII. The fact confronts us, that about four-fifths of all children leave school by the end of the eighth grade and go to work. The seriousness of this situation is found in the fact that these children are too young to enter vocations which call for skill or offer opportunity for development. Such occupations as those of errand boys and cash girls are typical of what is open to children in the cities. The majority appear to drift about with no industrial interests or vocational outlook and take whatever pays best. They spend important formative years in employment which offers slight prospects of advancement. This experience tends to produce an unfortunate attitude toward work as something which contains within itself no interest nor scope for realizing ambitions.

A small proportion of the children will rise through these circumstances, but not the majority, unless vocational interests and right attitudes toward work are awakened before they leave school.

The educational system with its high schools and its growing number of technical schools offers increasingly excellent industrial opportunities for those who will remain. The somewhat appallingly large proportion who do not remain makes pertinent the question as to whether schools completely fulfil their function by providing advanced opportunity for those who will take it, or whether in addition elementary schools ought not to give a

training planned definitely to awaken industrial interests and to promote industrial efficiency and satisfy the desire to do something worth while and to have a part in the world's activities. The final form which this training will take must be determined by wide experimentation, but the evident need that children should have a part in some work which develops a realization of the interdependence of individuals in modern civilization and of the responsibility of each, of the fact that what the municipality furnishes is produced or supplied by its individual inhabitants, and of the meaning of industrial life, gives some hints of the lines along which experiments should be tried.

The most promising answer yet made to this problem is that the time devoted to handwork in Grade VI, VII, and VIII should be increased to at least five hours a week, the extra time being taken from drawing, arithmetic, and physical exercise, as these activities are involved in constructive work, and that this time be devoted to making material which the city or town uses in its supply department. In this way a commercial standard would be furnished and at the same time financial complications would be avoided, and since the city can buy these materials at any time, the projects may be changed frequently enough to escape a too mechanical routine. Such work would frankly undertake the production of articles in quantity and by such industrial methods as division of labor and organization of a system by which poor work might be traced to its producer.

While such work may not supersede what is now known as manual training it may share the time with it, and it possesses certain important educational advantages. For example, supposing the project to be a portfolio, if each boy in the class makes one complete, and then the class is divided into groups and each performs a single operation, the great economy in time and material and the consequent increase in producing power is at once evident. Moreover, the repetition of a process, if not too long continued, instead of dulling the mind, awakens it to invent devices for performing these processes more rapidly and accurately. All danger of automatic routine may be avoided by the use of good judgment as to when the project shall be changed.

The interest shown by such a class when the school supply team calls to take the product is sufficient proof that the motive of personal ownership is not necessary as an inducement to do good work.[1] These contributions to the system readily awaken a new appreciation of school material in general and of all public property and its relation to individuals. Work such as this gives to the boy who goes into industrial employment a realization that any process to which he is assigned is part of a whole, and it is likely to awaken a demand on his part to know and master the whole. It is not unreasonable to hope that such "work teaching" which awakens interest in effective ways of doing things may bring discontent with unskilled occupations and a desire for more thorough industrial and technical training.

Certain dangers attending the introduction of industrial education into elementary schools readily suggest themselves, but they can scarcely exceed the dangers arising from the present lack of any suitable provision for properly satisfying the desire to come into touch with the activities of the world and the readiness to join with others in making a contribution to the general welfare.

In connection with the regular school programme the following suggestions for work in representation, construction, and design emphasize the phases which the abilities of the children seem to indicate as particularly appropriate to Grade VI.

Representation.—The use of drawing as a means of plain description should continue in connection with other school subjects. The work of Grades IV and V should have developed a habit of keen observation and correct representation of relative proportions and slants of lines in the objects drawn. That of Grade VI should develop still more power and freedom in representing the facts of form and structure. Definite progress toward this end is made when pupils develop a habit of thinking out the directions and limits of lines before these are drawn, by carrying the brush or pencil over the paper experimentally in the path the line is to take.

[1] These considerations are based largely on the results of an experiment tried in Boston by Frank M. Leavitt and described in detail by him in the *Manual Training Magazine* for June, 1908.

If the subject to be represented is a plant form the direction of the stem is thus thought out, and the location, direction, and size of the leaves are calculated stroke by stroke. This pause for a correct estimation of each movement makes certain that the child thinks about the line before instead of after he draws it. This order of procedure makes progress certain, but demands painstaking care. A great amount of earnest mental effort as well as manual practice is necessary if one learns to draw with any degree of correctness. Careless drawing is easy, but serves no valuable utilitarian or aesthetic end. Correct drawing is difficult

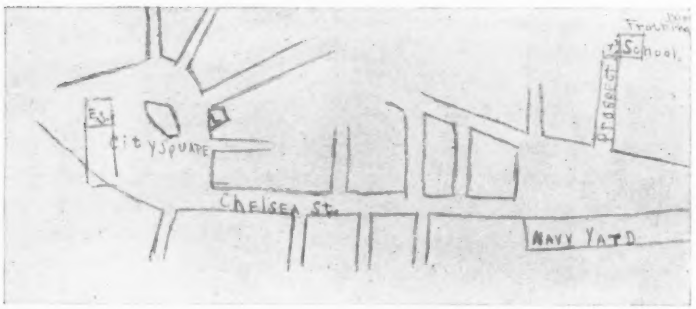

FIG. 1

to attain and the effort is not always pleasurable, but if it is undertaken in earnest the eye becomes sure in its judgment and truthful delineation grows to be a habit. This habit should be established at this time, and a proper presentation of each subject will furnish an incentive for correctness to which children readily respond. For example, maps and routes call for plain explanatory drawing in which correct proportions are a necessary framework with which no freedom can be taken. Children readily appreciate this fact and are interested to draw such routes as a stranger might depend upon in finding his way about town (Fig. 1).

Plant forms, on the other hand, involve proportions and shapes which constitute elements of beauty. Exquisite representations of plant shapes appear when the plant is held in the sunlight so as to throw its shadow on a sheet of paper, and the child stands

where he can see only the shadow. He finds the structure of stems, the shapes of large masses, the foreshortening of leaves

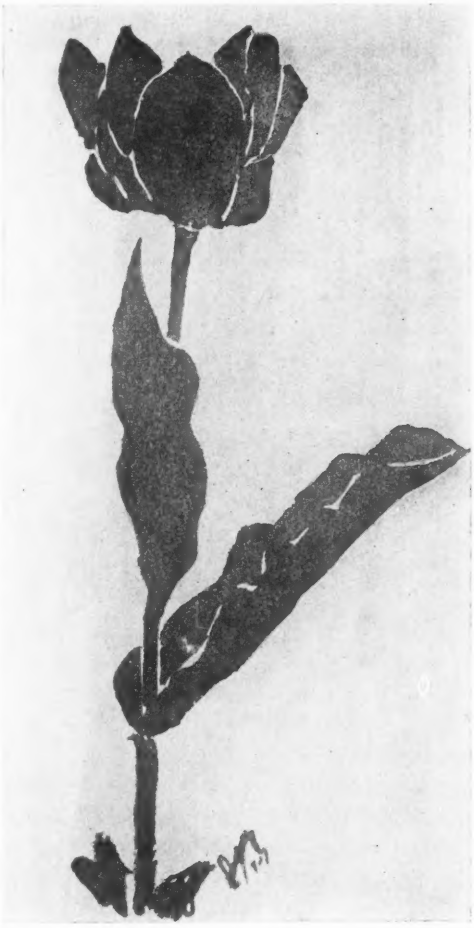

FIG. 2

and flowers, and the delicacy of grasses and thistledown perfectly translated into terms of black and white. This interpretation is a

greater incentive than the best verbal instruction. His brush and ink give results that look like shadows and he is stimulated to try to equal the perfection of the actual shadow thrown by the plant he is trying to represent (Fig. 2). The child who learns to

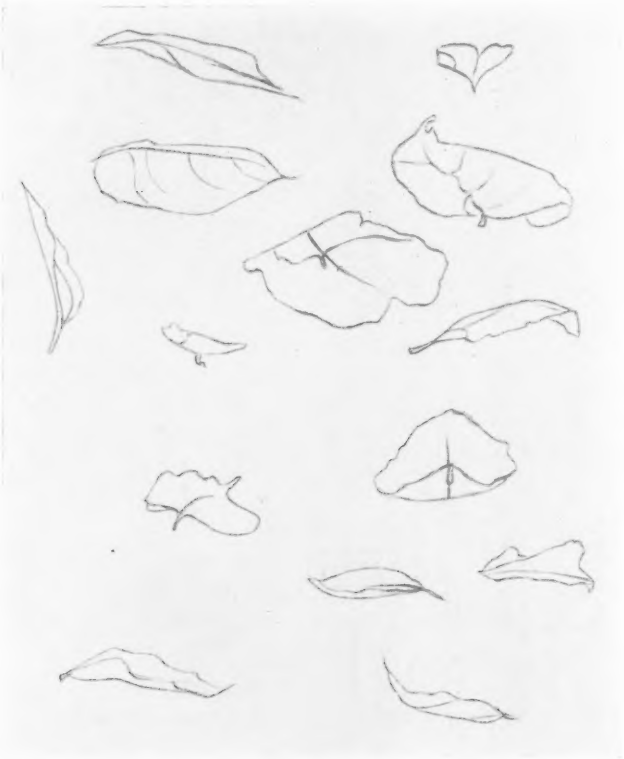

FIG. 3

represent things *as they are* gains a knowledge of form which will enable him to justify his courage when later, with increased aesthetic judgment, he ventures to alter the actual to conform to his ideal, and thus produces designs and compositions embodying natural forms.

Another subject appropriate to Grade VI is the representation of a few simple objects to show how each appears in several different positions: for example, a leaf held at various angles (Fig. 3) or a half apple turned successively in a number of directions. A topic such as this becomes a problem the solution of which the children are to work out. They are also interested in representing the solidity of objects such as boxes. One favorite juvenile method is to draw two squares and connect the corners

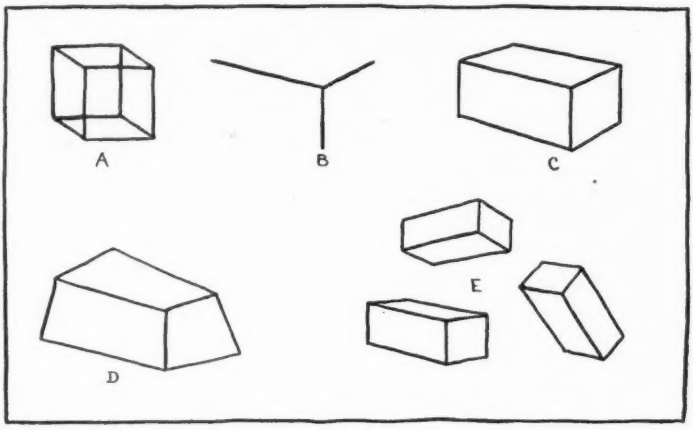

FIG. 4

(Fig. 4, *a*, *b*). They readily learn that three lines give the key to the structure and position of the box and that the other lines follow respectively the general directions of these (Fig. 4, *c*). Their first attempts at completing the box are frequently like Fig. 4, *d*, but practice in treating this figure as a problem in construction by trimming down the top and sides till these are satisfactory representations of rectangular faces soon results in a convincing picture of a rectangular solid. The children are then ready to experiment with different slants of the first three key lines to see the effect in changing the apparent position of the solid (Fig. 4, *e*). Nothing seems so readily to develop ability to represent rectangular solidity and later to draw from actual

objects as this constructive drawing from imagination. Mention of the principles of formal perspective, such as convergence of lines or the relation of the object to the level of the eye, does not seem to be necessary or helpful at this time.

Construction.—A desire to produce things which have a definite use, and a willingness to spend time mastering tools so that they may be utilized as an added means of dealing with material are characteristic of this grade. The making of simple mechanical apparatus, such as is involved in toys that work, and the production of things that are of evident use in the school and home are especially appropriate to this grade.

In planning courses in woodworking, Grade VI seems in most localities to be the most suitable place for introducing the children to bench work. This involves the use of tools which demand strength and skill. If bench work is postponed until this grade it comes at a time when the stimulus of new material and means of handling it are especially effective.

Two ways of organizing woodwork have been evident during the history of manual training. One prescribes a series of forms involving constructive elements and processes so graded that there is logical progression in difficulty and complexity. In some cases the problems are isolated parts of construction given for the purpose of developing technique without regard to any use to which the result shall be put, as in the Russian system. In other cases, as in sloyd, the results are objects which will be of use when completed, but so chosen as to insure a logical progress in the order of tools and processes involved.

The other method of organizing woodwork is based on the argument that a constructive problem in its entirety involves three steps: First, the idea of an object suggested by a need for it, so definite in character that the conditions shall furnish the worker with a means of reasoning out just what the size, form, and construction of the object should be to best fulfil the needs. For example, if the object is a bird house, its shape, the size of the door, and other details will be determined definitely by knowing the habits and size of the bird for which it is to be built and the locality in which it is to be placed. Secondly, after ideas of

the object in its completed form are clearly defined the most fitting method of construction should be reasoned out and patterns or working drawings made which show the number of parts needed and their exact shape and size. In this way the greater part of the constructive thinking may be done beforehand in terms of drawings and patterns, so that work in material may be predetermined and not experimental. In actual experience elementary school pupils can seldom plan perfectly beforehand and need some experimentation with material which often modifies the first plans. Thirdly, the tools needed and the knowledge of how to use them should be provided as necessity arises.

Woodwork with bench tools is in itself so interesting and at this age so suggestive of world activities that, however it may be presented, there is seldom any lack of enthusiasm on the part of the children. In fact, every system of woodwork cites as testimony to its suitability the great interest it arouses in the children.

Children trained by the first method are likely to develop a fine consciousness of ability to deal with material and a pride in excellent construction, but to be somewhat lacking in power to plan and to design. Generally the majority of a given class produces good work. Those trained by the second method have excellent opportunity to develop judgment and ability to plan how conditions may be met, but often the majority of a given class fails in the technical skill required to put their ideas into creditable material form. A few usually produce excellent results.

In actual practice, a combination of the two methods is generally followed. The children begin with given models by means of which the class can be taught as a whole and attain a certain degree of mastery of tools. After a year or two, those who show sufficient skill to justify undertaking individual projects are allowed to do so. By this means a standard of workmanship is maintained and the desire to produce an independent piece of work acts as a strong stimulus. A class model, while requiring the same processes of all pupils, need not result in mechanical uniformity. Fig. 5 shows the variety of design available in so common a stock model as the pen tray.

The constructive work for boys and girls of Grade VI should

bring them into contact with outside industries in the home and neighborhood, for example, sewing, cooking, constructive work, agriculture, etc. Experiments along the line of industrial work which produces by industrial methods material for use in the school system promise exceedingly valuable results.

Design.—The two phases of design before described, that of practice in repeating units at consistently related intervals, and

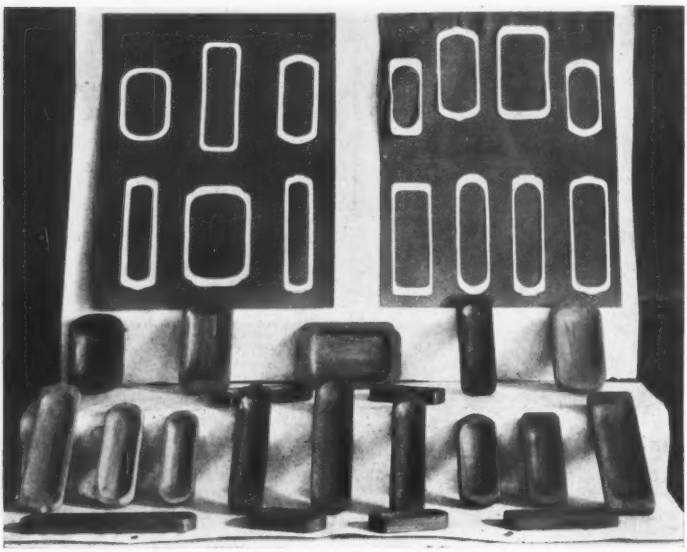

FIG. 5

that of planning and decorating objects should continue. The pupils should have practice in distributing more carefully worked-out units over surfaces. The frequent free-hand repetition of a single well-chosen unit trains judgment as to what constitutes tasteful distribution of pattern on a surface, and develops an individuality of style such as comes only when the hand repeats a well-mastered form, as in penmanship.

The projects in sewing and constructive work are among the best opportunities for design, and give scope for choice as to

the finest shapes, proportions, and decorations. For example, in the pen trays (Fig. 5) the comparison and discussion of outlines and relative proportions involve excellent problems in design. At this age appeal may be made directly to a response in terms of

FIG. 6

aesthetic pleasure. The question, "Which looks best" generally calls forth thoughtful replies.

As in Grade V, the best results in decoration are usually obtained by limiting a problem to a few elements, as a border where the only choice is in margins and modification of corners, or a lesson cover with its printing and perhaps a monogram or other suitable ornament. Special occasions which call for invita-

tions, menus, announcements, and souvenirs, such as valentines (Fig. 6), offer opportunities for good arrangements of spaces.

Continued use of water colors develops ability to discriminate colors more accurately. The children should learn to mix paints so as to match any given sample or produce any desired color. Special emphasis may be placed upon color values or the changes in effect when a color passes into light or into dark. The children should make charts showing five values of the same color in carefully graded steps between black and white.

A reasonable standard of accomplishment has been reached at the end of the sixth year if drawing grows more free and correct, because each line is carefully calculated, and if representations of objects show their solidity and position, if more difficult tools are mastered and the children are enabled to make things which appeal to them as worth while as a contribution to general or individual needs. All such things involve intelligent planning. And the desired object is achieved if the children are able to design simple constructive problems so that the results will be not only adequate to their purpose but tasteful in form and ornament and if ability to match colors and to discriminate between different tones is increased.

EDITORIAL NOTES

Libraries not Fully Utilized by Teachers

The possibilities of the library in connection with school work have never been fully realized by teachers. The teacher, like the average citizen, draws books from the library and reads them and hands them in again without having done anything to make the material in the books readily accessible in the future. How often one remembers vaguely that he read a month ago just the facts which he now needs for immediate use, but the source of the needed information has been forgotten and the facts themselves have grown very hazy in memory. If one had only made a note! Such a note properly recorded would be useful not only for one's own private use but also for the use of others. When a teacher refers a class to the library in a general way there is very little chance that the reference will be productive. If, on the other hand, a teacher will give children a few precise references, the use of the library will be encouraged and made productive. What is needed in our schools is more systematic, intelligent use of libraries.

Supplementary Reading

We are all convinced that supplementary reading has come to stay in our schools. The best kind of supplementary reading is that which the children get by going to books in the library. Such supplementary reading not only yields information but it gives training in the methods of research which will be of lasting benefit throughout life. A body of facts which the pupil has "run down" in the library is very much more significant for his training than a body of facts set forth in some short book which requires nothing of the pupil but the effort of reading. The difficulty which the child encounters when he tries to "run down" the facts for himself are the familiar difficulties of finding readily what is in a large collection of

books. The searching of books is an art in itself. Someone must go over the books and make the matter in them accessible. Someone must help the child at first to approach books intelligently. Thus we come again to the conclusion that teachers should learn to use books and to guide children in the use of books.

What to Do in the School Library

Training of the kind which has been advocated in the foregoing paragraphs can be very advantageously gained in the school library. Let a grade with the help of the teacher begin to make a card catalogue of a few subjects. Here are perhaps ten books on American history, and each one contains some material on Washington. Where is this material? Let a card or series of cards be made referring to all of the significant passages on Washington. Again, the grade is studying Asia. Where can anyone find information about Asia? Let all the references be compiled by the grade. Once the child has contributed to the preparation of a card catalogue he will see the value of the big catalogue in the public library. He will realize the value of an index. He will open with some interest Poole's *Index* and like aids to the library user. The teacher will find that the work of next year will be made lighter and that there will be a genuine stimulus to research in the achievements of the grade of the year before.

Teachers May Learn Much from Librarians

Even if the teacher were not interested in developing this kind of ability in the pupils there would still be ample reason for urging on members of our profession the importance of becoming acquainted with library methods. No one who teaches can afford to fall behind in his acquisition of new facts, and the only way to keep up with new facts is to collect them systematically. The librarians of this country have carried the methods of systematic classification of library material farther than it has been carried anywhere else in the world. In the last two decades this country has taken the unquestioned lead in all matters of library technique. Teachers cannot afford to be ignorant of this technique. The librarians have perfected the art of using books; we who depend on books must learn their art.

There are promising signs that the future will realize very fully this transfer of the librarian's art to the school. Here and there libraries are found in close co-operation with the schools through the enterprise of librarian and interested teachers. Public libraries are establishing branches in schools. These can be made more than mere distributing centers; they can be made and are being made centers for wholesome training in methods of using books. Finally, there is a very great demand for librarians especially trained in the handling of children's books. The Pittsburg library has a school for the training of children's librarians, and the demands for the products of this school far outrun the available supply. All these signs are encouraging. They indicate what can be done now that attention is turned in this direction. They also serve to call the attention of each individual teacher to his and her opportunity of taking advantage at the earliest possible moment of all that is to be derived from systematic methods of using books.

School Librarians

BOOK REVIEWS

Questions in School Hygiene. By GUY MONTROSE WHIPPLE, edited by CHARLES DEGARMO. Cornell Study Bulletins for Teachers, No. 4. Syracuse: C. W. Bardeen, 1909. Pp. 88.

This book, which is the fourth of a Series of Bulletins edited by Professor Charles DeGarmo and the third of the series written by Professor Whipple, contains about one thousand questions, systematically grouped and classified under the headings of the hygiene of education. The general topics treated are: the schoolhouse and its site, grounds, construction, form, size of rooms, illumination, desks, heating and ventilating, sanitation, vision, the hygiene of reading and writing, hearing, the hygiene of the mouth, throat, nose, school diseases and accidents, medical inspection and growth, with special reference to sex hygiene, fatigue, overpressure, rest, pauses, and programme arrangement. Under each of those topics there are from eight to fifty well-selected page and chapter references to standard authorities. Attention is also called to four American journals which contain articles on school hygiene, a few of the best German works, and five German periodicals.

The Bulletin is designed for use in college, normal or training-school classes, teachers' associations, parents' clubs and similar organizations. When viewed from the standpoint of its purpose and method it "is devised to stimulate the interest of students and teachers, to afford a guide for reading and discussion, and a means for promoting and testing the intelligent assimilation of the subject-matter it represents."

Aside from the interrogatory form of soliciting reports and discussions, the author skilfully intersperses the questions with brief statements which call for analysis, enumeration, classification, description, or explanation; a definition, comparison, outline, or sketch is sometimes required.

The comprehensive scope of the questions may be inferred from the subjects indicated. The form of the questions, which are, as a rule, "single" and unambiguous, varies considerably. A few may be answered with "yes" or "no"; some are direct, others indirect; many are based on references, a few on direct observation; some imply answers, others offer varying degrees of suggestion.

The reviewer's experience leads him to believe several of the questions would have more significance to the average reader if they gave one or two direct suggestions as to what to look for. The following question, which is one of six in the Bulletin of the particular type in mind, will serve as an illustration. (44) "For what games or sports ought provision to be made on the playground, e. g., baseball, basket-ball, handball, horizontal bar, swings, etc.?" This question definitely directs the reader and at the same time stimulates further thought and investigation. Two or three examples in place of five would have been sufficient.

The question just quoted will also serve to illustrate the limits of the field outlined in this connection, since this is the author's nearest approach, aside from a question on the playground movement, to the needs and difficulties of *directed* play from the standpoint of hygiene and development. There are no questions bearing directly on the meaning of play and its educatonal value to those who take part.

There are some questions of a type illustrated by the following: (386) "Define the terms 'heterophoria' and 'heterotropia.'" (393) "What is 'exanopsic amblyopia'?" The lay reader will no doubt infer the answers to these must be contained in some one, or perhaps more, of the references listed under the twenty authors named under "Vision." This is somewhat typical. The references are not closely classified or evaluated and many of the questions turn the attention to books rather than school conditions.

That this book is, however, full of valuable and interesting questions could be shown by calling attention to the subject-matter of any one of its pages. Under the heading of "School Desks," for instance, we find, aside from the references, questions whch call attention to periods of growth, sex differences, evil effects of bad posture, relative values of desks and tables, habits of posture, necessity of exercise, and so on.

Some questions taken at random are:

(435) "How many books are read by the average child during his second school year?"

(550) "Are adenoids more common among the poorer classes? Why?"

(558) "What is the difference between stuttering and stammering?"

(708) "Unless in most vigorous health the school teacher should not teach in the Sunday school. Why not?"

The method used in this book, which brings the reader face to face with practical educational problems and schoolroom situations by means of well-selected and pointed questions, is rapidly growing in value and influence. It is from this kind of concrete material and searching criticism that education will gain much toward securing a body of rational and systematized knowledge.

BIRD T. BALDWIN

THE UNIVERSITY OF CHICAGO

Music in the Public Schools. A Manual of Suggestions for Teachers.

This recent publication may well be considered a good sign of the times. For the past few years teachers of music have been gradually awakening to the seriousness of the study of music in the child's life, and to the necessity of having such study in definitely graded form.

The writer of this manual, with a keen appreciation of the needs of the child, has prepared a course of study for eight years' work with a definite outline for each week of each year, for the guidance of the teacher. This outline will prove especially helpful to teachers who find themselves confronted with the necessity of teaching music, having little preparatory training, while to teachers of experience many of the suggestions may increase the value of their own courses of study.

Nearly all of the essentials of music-study, namely song interpretation, perception of good music, voice training, and the reading of music notation, are given due attention—the first three showing a mark of great progress in the treatment of school music; we say "nearly" all, for there is yet to be desired a place for original or conceptive work, which is the basis of all song-study.

It is a welcome day when the poetic content of song is considered. In this book the material has been wisely chosen in reference to the poetic as well as melodic content; most of it is simple in the ideas involved, therefore within the child's interest and comprehension.

If the definite technical work which the author has outlined for the first three years could be left until a later period, and more time put upon song singing (the necessary technicalities being taught so simply that they are learned almost unconsciously by the children), together with original work, the course would be broader, and a more certain musical basis would be laid for the work of the succeeding years.

ELIZABETH HOAR

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CURRENT EDUCATIONAL LITERATURE IN THE PERIODICALS[1]

IRENE WARREN
Librarian, School of Education, The University of Chicago

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[1] Abbreviations.—Amer. Educa., American Education; Amer. Journ. of Psy., American Journal of Psychology; Cent., Century; Child L., Child Life; Educa., Education; Educa. Bi-mo., Educational Bi-monthly; Educa. R., Educational Review; El. School T., Elementary School Teacher; Good Housekeep., Good Housekeeping; Harp. W., Harper's Weekly; Journ. of Educa. (Bost.), Journal of Education, New England and National; Journ. of Educa. Psychol., Journal of Educational Psychology; Journ. of Geog., Journal of Geography; Liv. Age, Living Age; Lib. Journ., Library Journal; Man. Train. Mag., Manual Training Magazine; New Eng. Mag., New England Magazine; Pedagog. Sem., Pedagogical Seminary; Pop. Educa., Popular Educator; Psycholog. Clinic, Psychological Clinic; Pub. Lib., Public Libraries; School B., School Bulletin; School and Home Educa., School and Home Education; School R., School Review; Sci. Amer. Sup., Scientific American Supplement; Teach. Coll. Rec., Teachers' College Records.

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